CLAIMS

What is claimed is:

1. An ischemia detecting device comprising:

at least two electrodes that sense cardiac activity of a heart;

a sensing circuit coupled to the at least two electrodes that provides an electrogram of the sensed cardiac activity;

a processor comprising an integrator that provides an integral of a selected feature of the electrogram and a normalizer that normalizes the integral by a normalizing factor to provide an electrogram feature score; and

an analyzer that provides an ischemia indication when the electrogram feature score satisfies a given criteria.

2. The device of claim 1 wherein the selected electrogram feature is at least one of an ST segment and a T wave.

3. The device of claim 1 wherein the normalizing factor is one of an R wave amplitude and an R wave amplitude difference.

4. The device of claim 1 wherein the normalizer is a divider and wherein the divider further divides the integral by the time duration of the selected feature.

5. The device of claim 1 wherein the sensing circuit and processor are enclosed within a conductive case and wherein the at least two electrodes include the case.

6. The device of claim 5 wherein the at least two electrodes further include one of a ring electrode and a tip electrode.

7. The device of claim 1 wherein the at least two electrodes are a ring electrode and a tip electrode.

8. The device of claim 1 wherein the at least two electrodes provide a plurality of cardiac activity sensing electrode configurations resulting in a plurality of electrograms and electrogram feature scores, wherein the processor further comprises a combiner that provides a combined electrogram feature score, and wherein the analyzer analyzes the combined electrogram feature score.

9. The device of claim 8 wherein the combiner is a summer that adds the electrogram feature scores to provide the combined electrogram feature score.

10. The device of claim 8 wherein the combiner selects a maximum one of the electrogram feature scores as the combined electrogram feature score.

11. The device of claim 8 wherein the normalizer normalizes the combined electrogram feature score by a second normalizing factor.

12. The device of claim 9 wherein the second normalizing factor is heart rate.

13. The device of claim 8 wherein the analyzer applies a threshold metric to the combined electrogram feature score.

14. The device of claim 13 wherein a combined electrogram feature score is provided by the device for each one of a plurality of cardiac cycles, and wherein the device further comprises a reporter that reports a percentage of the combined feature scores which exceed the threshold metric.

15. The device of claim 8 wherein the analyzer provides a continuous metric of the combined electrogram feature scores.

16. The device of claim 8 further comprising a classifier that classifies the combined electrogram feature scores by one of heart rate, posture and activity level.

17. An ischemia detecting device comprising:

sensing means for sensing cardiac activity to provide an electrogram of the sensed cardiac activity;

integrating means for integrating a selected feature of the electrogram to provide an integral;

normalizing means for normalizing the integral by a normalizing factor to provide an electrogram feature score; and

detecting means for detecting ischemia when the electrogram feature score satisfies a given criteria.

18. In a cardiac monitoring device, a method of detecting ischemia of a heart comprising:

sensing cardiac activity of the heart to provide an electrogram of the cardiac activity;

integrating a selected feature of the electrogram to provide an integral;

normalizing the integral by a normalizing factor to provide an electrogram feature score; and

providing an ischemia indication when the electrogram feature score satisfies a given criteria.

19. The method of claim 18 wherein sensing comprises providing a plurality of electrograms, and wherein the method further comprises providing a like plurality of electrogram feature scores and combining the electrogram feature scores to provide a combined electrogram feature score, and wherein providing comprises analyzing the combined electrogram feature score.